REMARKS

This paper is in response to the Notice of Non-Compliant Amendment, dated December 28, 2007. In the Notice, the Office has stated that the reply filed on September 24, 2007 is not fully responsive to the prior Office action because the response did not contain a discussion of the references cited against the claims or an explanation of how the claims are distinguished from the cited references.

Applicants note that the submission filed on September 24, 2007 was in fact a supplemental reply. The initial reply to the April 26, 2007 Office action was filed on August 22, 2007, and a discussion of the references and an explanation of applicants' position was set forth in that August 22, 2007 response. The September 24, 2007 submission was merely a supplemental reply, amending certain claims. The amendment did not, however, affect the substance of applicants' initial response.

However, for convenience sake, applicants are resubmitting the amendments, as made in the September 24, 2007 supplemental reply, and the remarks from the initial August 22, 2007 reply in the current reply to the Notice of Non-Compliant Amendment. The remarks from the initial August 22, 2007 reply have been modified slightly to take into consideration the amended claim set. Applicants believe that this submission is fully responsive to the April 26, 2007 Office action.

Rejection of the Claims Under 35 U.S.C. §103(a)

Reconsideration is requested of the rejection of claims 1-15, and 17-57 under 35 U.S.C. §103(a) as being unpatentable over Wu, et al. (WO 02/42365).[1]

As amended, claim 1 is directed to an absorbent article comprising a laminated outer cover, the laminated outer cover comprising a biodegradable stretched aliphatic-aromatic copolyester film. The film comprises filler particles, a polyfunctional branching agent, and a copolyester comprising from about 10 mole% to about 30 mole% of aromatic dicarboxylic acid or ester thereof, from about 20 mole% to about 40 mole% of aliphatic dicarboxylic acid or ester thereof, from about 30 mole% to about 60 mole% dihydric alcohol, and wherein the weight average molecular weight of the copolyester is from about 90,000 to about 160,000 Daltons, and wherein the number average molecular weight of the copolyester is from about 35,000 to about 70,000 Daltons, and wherein the glass transition temperature of the copolyester is less than about 0°C.

Wu, et al. is directed to biodegradable films that are permeable to moisture vapor and air. The films have a moisture vapor transmission rate of from about 1000 to about 4500 $g/m^2/day$. The films comprise a blend of from about 40% to about 75% by weight of a biodegradable thermoplastic polymer and about 25% to about 60% by weight of inorganic filler particles. The film is stretched at ambient temperature to produce microvoids

[1] Applicants note that page 2 of the April 26, 2007 Office action states that claims 1-57 are rejected over Wu (WO 02/23465). However, WO 02/23465 is actually not Wu, but rather is Buescher, and is entitled Synchronizing Sample Timing in an RFID receiver. Applicants assume the Office intended to base

in the film. The filler particles may be calcium carbonate, zeolite, silica, etc. Suitable biodegradable polymers include polyesters such as aliphatic-aromatic copolyesters such as those described in WO 98/23673. The thermoplastic copolyester may comprise at least one aromatic dicarboxylic acid such as adipic acid, at least one aliphatic diol such as 1,4-butanediol, and at least one aliphatic dicarboxylic acid such as terephthalic acid. The films may be used in diapers, training pants, catamenial pads, and the like. Significantly, however, Wu, et al. fail to disclose or suggest aliphatic-aromatic copolyesters that have a weight average molecular weight of from about 90,000 to about 160,000 Daltons, a number average molecular weight of from about 35,000 to about 70,000 Daltons, and a glass transition temperature of less than about 0°C.

In order for the Office to show a *prima facie* case of obviousness, M.P.E.P. §2143 requires that the Office must meet three criteria: (1) the prior art reference must teach or suggest all of the claim limitations; (2) there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference, and (3) there must be some reasonable expectation of success. An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. The common sense of those skilled in the art can demonstrate why some combinations

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the rejection of claims 1-57 on Wu (WO 02/42365), as listed in the Notice of References Cited in the April 26, 2007 Office action.

would have been obvious where others would not.[2] The Office has clearly failed to meet its burden under numbers (1) and/or (2) above, as the cited reference does not teach or suggest all of the claimed limitations and there is no apparent reason to modify the reference to arrive at each and every limitation of Applicants' claim 1. It simply would not have been obvious to one skilled in the art to arrive at Applicants' claimed combinations.

The Office has taken the position that the copolyesters described in Wu, et al. inherently have weight average molecular weights, number average molecular weights, and glass transition temperatures that fall within applicants' claimed ranges. The Office bases this position on the statement in Wu, et al. that the polyesters used therein can be aliphatic-aromatic copolyesters as described in Brink (WO 98/23673).

Brink is directed to compositions and films comprising thermoplastic elastomers having a moisture vapor transmission rate of at least 200 g mil/m^2 day and microporous inorganic fillers. The compositions preferably comprise from about 15% to about 60% by weight of the microporous inorganic filler. The thermoplastic elastomerics may be polymerization products of at least one aromatic dicarboxylic acid and/or at least one aliphatic dicarboxylic acid, and at least one diol. The aromatic and/or aliphatic dicarboxylic acids make up 100 mole% of the copolyesters, and the diols make up 100 mole% of the copolyesters, based on a total monomer content of 200 mole%. In

[2] Leapfrog Enterprises, Inc. v. Fisher-Price, Inc., No. 06-1402 (Fed. Cir. May 9, 2007) *See also* KSR Int'l Co. v. Teleflex, Inc., et al. 550 US____, 2007 WL 1237837 at *12 (2007).

one particular embodiment, the copolyesters may be prepared from glutaric acid (30-65 mole%); diglycolic acid (0-10 mole%); terephthalic acid (25-60 mole%); and 1,4-butanediol (100 mole%), based on a total mole% of dicarboxylic acid and diol of 200%. Significantly, howevever, Brink fails to disclose or suggest aliphatic-aromatic copolyesters that have a weight average molecular weight of from about 90,000 to about 160,000 Daltons, a number average molecular weight of from about 35,000 to about 70,000 Daltons, and a glass transition temperature of less than about 0°C.

Thus, neither Wu, et al. nor Brink disclose or suggest copolyesters having number average molecular weights, weight average molecular weights, or glass transition temperatures that fall within applicants' claimed ranges. Furthermore, the only support the Office has provided for its position that the copolyesters of Wu, et al. inherently have these properties is the statement on page 3 of the current Office action that "The argument for inherency is based upon the teaching of Wu by reference to Brink of a laminated film having a composition that satisfies the relevant limitations of claim 1." This statement, however, is insufficient to demonstrate that the copolyesters of Wu, et al. inherently have a number average molecular weight, a weight average molecular weight, and a glass transition temperature within applicants claimed ranges.

Rather, a finding of inherency cannot be based on *mere assumptions* by the Office. Rather, to establish inherency, "the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of

the applied prior art."[3] Furthermore, "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic."[4]

The Office has made no such showing. As previously discussed, the Office's only support for its assertion of inherency is a statement that Wu, et al. refer to the compositions of Brink. This statement, however, is clearly insufficient to show that the copolyesters of Wu, et al. inherently (i.e., necessarily) have applicants claimed molecular weights and glass transition temperature. This is especially true given the lack of any disclosure in Brink or Wu, et al. as to the weight average molecular weight, number average molecular weight, or glass transition temperatures of the copolyesters disclosed therein, or any recognition of the effects these properties will have on the films described in Wu, et al.

Furthermore, applicants note that the molecular weight and glass transition temperature of a copolyester is not always correlated with a particular mole% breakdown of the components of the copolyester. In particular, copolyesters having the same breakdown of components by mole% will not necessarily have the same number average molecular weight, weight average molecular weight, and glass transition temperature. This has been previously discussed and specifically illustrated in the

[3] MPEP §2112 (citing *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

[4] MPEP §2112 (citing *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993)). MPEP §2112 also states "[i]nherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." (quoting *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Response After RCE filed on December 28, 2006. Consequently, the copolyesters of Wu, et al. (and/or Brink) cannot be said to inherently have the same number average molecular weight, weight average molecular weight, and glass transition temperature as set forth in applicants' claim 1.

Nor would it be obvious for one skilled in the art to modify the teachings of Wu, et al. (and/or Brink) to arrive at a copolyester having applicants' claimed molecular weights and glass transition temperatures. As noted above, there is no disclosure or suggestion in either of the cited references that the copolyesters disclosed therein could or should have number average molecular weights, weight average molecular weights, and glass transition temperatures within the ranges as set forth in applicants' claims. Nor is there any recognition of the benefits of copolyesters having the claimed combination of mole% breakdown of components, molecular weights, and glass transition temperature. For instance, applicants note that slight differences in the molecular weight and glass transition temperature may affect properties of the copolyester.[5] Neither Wu, et al. nor Brink disclose or suggest that molecular weights or glass transition temperatures of the copolyesters affect the copolyester properties, or that it would be desirable for the copolyesters to have molecular weights and glass transition temperatures within applicants' claimed ranges. As such, there would be no apparent reason for one skilled in the art to modify the teachings of Wu, et al. and Brink to arrive at applicants' claim 1.

[5] *See, e.g.,* Specification at ¶ 37 and 39.

Additionally, applicants note that it is well settled that the burden is on the Office to provide some suggestion of the desirability to do what the inventor has done; that is, the Office must present a convincing line of reasoning as to why the artisan would have found the claimed invention to be obvious in light of the teachings of the references. Applicants respectfully submit that the Office has not presented any reasons why one skilled in the art would modify the teachings of Wu, et al. (and/or Brink) to arrive at a copolyester having applicants claimed molecular weights and glass transition temperatures, let alone a convincing line of reasoning as required by the MPEP.[6] As noted above, the Office has merely made a general statement that the copolyesters of Wu, et al. inherently have the weight average molecular weights, number average molecular weights, and glass transition temperatures, as set forth in claim 1, and that inherency is supported by the reference in Wu, et al. to the copolyesters of Brink.

This, however, cannot be construed as a statement regarding motivation to modify the cited references. The Office has not provided any reasoning whatsoever as to why one skilled in the art, in the absence of applicants' disclosure as a blueprint,

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[6] MPEP §2142 states:

> The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." quoting Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985) (emphasis added).

would modify the copolyesters of Wu, et al. (and/or Brink) to arrive at a copolyester having applicants' claimed weight average molecular weight, number average molecular weight, and glass transition temperature.

Additionally, applicants note, and the Office has admitted, that Wu, et al. alone or by reference to Brink fails to teach a film comprising a polyfunctional branching agent, as required by amended claim 1. The Office has, however, taken the position that Hale, et al. (U.S. 2003/0039851) teach a film formed using a polyfunctional branching agent and since the film of Hale, et al. has a composition that is substantially identical to that taught by Wu, et al. by reference to Brink, it would be obvious to modify the film taught by Wu, et al. to include a polyfunctional branching agent. Applicants respectfully disagree.

Hale, et al. is directed to multilayer films comprising a layer of a thermoplastic polymer such as an aliphatic-aromatic copolyester (AAPE). The AAPEs may be comprised of diols and diacids. In one preferred embodiment, the AAPE comprises about 30 to about 75 mole % of adipic acid, about 25 to about 70 mole % terephthalic acid, about 90 to 100 mole % 1,4-butanediol, and 0 to about 10 mole % of modifying diol, based on 100 mole percent of a diacid component and 100 mole percent of a diol component. The AAPE may optionally comprise from about 0.01 to about 10 wt.% of a branching agent, and from 0 to about 80 percent by weight of a filler. The multilayer film in stretched form has a moisture vapor transmission rate of at least 300 g-$\mu m/m^2$-hour (or g-mil/m^2-day), and preferably greater than about

500 to about 10,000 g-µm/m^2-hour. The AAPE may be formulated into multilayer films and incorporated into articles such as diapers.

Applicants respectfully submit that contrary to the Office's position, there is no apparent reason for one skilled in the art to modify the film of Wu, et al. to incorporate the polyfunctional branching agent of Hale, et al. As recognized by the Supreme Court in KSR International Co. v. Teleflex, Inc., while an obviousness determination is not a rigid formula, the TSM (teaching, suggestion, motivation) test captures a helpful insight: "A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs [caution as to] a patent application that claims as innovation the combination of two known [elements] according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the [art] to combine the elements in the way the claimed new invention does."[7]

In the instant case, the Office has failed to identify a reason why one skilled in the art would incorporate the branching agents disclosed in Hale, et al. into the films of Wu, et al. Rather, the Office has merely stated that the films of Hale, et al. and Wu, et al. are similar, and therefore it would be obvious to modify the film taught by Wu, et al. to include the branching agents disclosed in Hale, et al. Applicants submit, however, that the mere fact that references can be combined or modified does not render the resultant combination

[7] 550 US____, 2007 WL 1237837 at 5 (2007).

obvious unless the prior art also suggests the desirability of the combination. Furthermore, motivation to combine references is not found simply because two references deal with issues in the same general field. In the instant case, there is simply nothing in Wu, et al. (or Brink) to suggest that the films described therein could or should comprise a polyfunctional branching agent. Nor does Hale, et al. disclose or suggest any particular benefit to incorporating a branching agent into the films described therein. There is simply no apparent reason for one skilled in the art to combine the teachings of Wu, et al. and Hale, et al., as suggested by the Office.

In light of the foregoing discussion, applicants submit that one skilled in the art would not be motivated to modify the Wu, et al. (and/or Brink) reference to arrive at the absorbent article set forth in applicants' claim 1. In particular, neither Wu, et al. or Brink disclose or suggest the desirability of a copolyester film comprising a polyfunctional branching agent and an aromatic dicarboxylic acid, aliphatic dicarboxylic acid, and dihydric alcohol in applicants' claimed mole% that also has a weight average molecular weight of from about 90,000 to about 160,000 Daltons and a number average molecular weight of from about 35,000 to about 70,000 Daltons and that has a glass transition temperature of less than about 0°C.

Applicants thus submit that claim 1 is patentable over the cited references. Claims 2-15 and 17-53 depend directly or indirectly from claim 1 and are thus patentable for the same reasons as set forth above for claim 1 as well as for the additional elements they require.

Additionally, with regard to claims 21 and 22, the Office has stated that the thickness of the films disclosed in Wu, et al. is between 0.25 and 10 mils, which is about 6.35-254 micrometers. Applicants respectfully disagree with the Office's calculations. Rather, applicants submit that 0.25 to 10 mils is about 250 to 10,000 micrometers. Thus, Wu, et al. are clearly teaching films that have thicknesses greater than those set forth in claims 21 and 22. Claims 21-22 are thus patentable over Wu, et al. for this additional reason.

Additionally, with regard to dependent claims 33-36, 41-46, and 50-52, the Office has stated that properties such as hydrostatic pressure resistance (claims 33-36), modulus of elasticity (claims 41-43), % strain in the machine direction (claims 44-46), and break stress (claims 50-52) are inherent properties of the films of Wu, et al., based on the disclosure of Brink. Applicants respectfully disagree.

Initially, it should be recognized that properties such as hydrostatic pressure resistance, modulus of elasticity, % strain in the machine direction, and break stress are not determined solely by the mole % breakdown of aliphatic dicarboxylic acids, aromatic dicarboxylic acids, and dihydric alcohols in the copolyester. Rather, these properties are affected not only by mole% breakdown of components but also by factors such as the size and amount of filler particles in the film, the number average molecular weight of the copolyester, the weight average molecular weight of the copolyester, and the glass transition temperature of the copolyester. For instance, ¶37 of the specification states that weight average molecular weight and number average molecular weight have an effect on the tensile

strength of copolylesters. In particular, if the molecular weight numbers are too small, the copolyester will be too tacky and have too low of a tensile strength. If the molecular weight numbers are too high, various processing issues are encountered. Additionally, as described in ¶39 of the specification, the glass transition temperature of the copolyester affects the flexibility characteristics of the copolyesters.

As further support for this, applicants refer to the Examples of the present invention. In particular, the examples describe the preparation of stretched aliphatic-aromatic copolyester films using two commercially available aliphatic-aromatic copolyester resins as starting materials (i.e., Ecoflex F BX 7011 aliphatic-aromatic copolyester and EnPol G8060 M aliphatic-aromatic copolyester).[8] The films prepared using the Ecoflex and EnPol resins both had mole% breakdown of components that fell within the ranges set forth in applicants claim 1. Stretched films prepared using various amounts of filler particles were then tested for hydrostatic pressure resistance (Example 4), water vapor transmission rates (Example 5), and tensile strengths (e.g., % strain in the machine direction and % strain in the cross direction) (Example 6).

As can be seen from the results of these tests, the various stretched films prepared with the Ecoflex or EnPol resins did not have the same hydrostatic pressure resistance, water vapor transmission rate, and tensile strength measurements, despite all having a mole% breakdown of components that fell within the ranges set forth in claim 1, thus illustrating that copolyesters

[8] Example 1 describes preparation of precursor films, and Example 3 describes stretching the films of Example 1.

that have a mole% breakdown of components that fall within the ranges set forth in claim 1 will not inherently have the same values for these properties. Consequently, it cannot be assumed that the films of Wu, et al. (and/or Brink) will inherently have the same hydrostatic pressure resistance, modulus of elasticity, % strain in the machine direction, and break stress, simply because they have similar mole % breakdown of aliphatic dicarboxylic acids, aromatic dicarboxylic acids, and dihydric alcohols, as set forth in applicants' claims.

Claims 33-36, 41-46, and 50-52 are thus patentable over the cited references for this additional reason.

Additionally, with regard to claims 44-46, applicants note that the Examples of Wu, et al. give a percent machine direction elongation at break for the films tested therein. In particular, the values given in the table on page 19 are well above the values set forth in applicants' claims 44-46. Claims 44-46 are thus patentable for this additional reason.

As amended, claim 54 is directed to an absorbent article comprising a laminated outer cover, the laminated outer cover comprising a biodegradable stretched aliphatic-aromatic copolyester film. The film comprises filler particles, a polyfunctional branching agent, and a copolyester comprising from about 10 mole% to about 30 mole% terephthalic acid, from about 20 mole% to about 40 mole% adipic acid, from about 30 mole% to about 60 mole% 1,4-butanediol, and wherein the copolyester has a weight average molecular weight of from about 90,000 to about 160,000 Daltons and a number average molecular weight of from about 35,000 to about 70,000 Daltons, and wherein

the glass transition temperature of the copolyester is less that about 0°C.

Claim 54 is patentable for the same reasons as set forth above for claim 1. Claims 55-57 depend directly or indirectly from claim 54 and are thus patentable for the same reasons as set forth above for claim 54 as well as for the additional elements they require.

CONCLUSION

In light of the foregoing, applicants request reconsideration of the rejection of claims 1-57 and allowance of all pending claims. The Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 01-2384.

Respectfully submitted,

/Christopher M. Goff/

Christopher M. Goff, Ref. No. 41,785
ARMSTRONG TEASDALE LLP
One Metropolitan Square
Suite 2600
St. Louis, Missouri 63102
(314) 621-5070

CMG/LJH/skb